

IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

Listing of Claims

Claims 1-68 (canceled).

69. (previously presented) A signal processing method comprising the steps of:

- providing a plurality of fluency A/D functions classified with parameters m;
- sampling a continuous input signal to get sampling values;
- finding inner product operating values between the continuous input signal and a fluency A/D function selected from the plurality of fluency A/D functions;
- judging differences between the sampling values and the inner product operating values;
- outputting the parameter m in which values of the differences come to minimum, and the sampling values or the inner product operating values as an output signal,
- providing a plurality of fluency D/A functions classified with the parameters m;
- inputting the output signal;
- selecting a fluency D/A function from the plurality of fluency D/A functions according to the parameter m in the output signal; and

generating a continuous signal by performing convoluting integration between the selected fluency D/A function and the sampling values or the inner product operating values in the output signal.

70. (previously presented) The signal processing method according to claim 69, wherein the parameter m is a parameter denoting that each of the fluency A/D function of the parameter m and the fluency D/A function of the parameter m is continuously differentiable only as often as $(m-2)$ times, and

wherein the parameters m contain at least three types which are $m = 2$, 3, and ∞ .

71. (previously presented) The signal processing method according to claim 69, wherein the fluency A/D function and the fluency D/A function maintain orthogonal relation each other for each of the parameters m .

72. (previously presented) The signal processing method according to claim 69, wherein the continuous input signal corresponds to a discrete signal which is sampled at shorter sampling period than that for getting the sampling values and then encoded, and

wherein the continuous signal is a signal gotten through digital signal processing.

73. (previously presented) The signal processing method according to claim 69, wherein the output signal is inputted through a recording medium or a communication means.

Claims 74-77 (canceled).